



Laboratory Report Number: L13111086

Mark Lyon Environmental Waste Solutions 2440 Louisiana Blvd Albuquerque, NM 87110

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact: Stephanie Mossburg – Team Chemist/Data Specialist (740) 373-4071 Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on December 04 2013

David E. Vardenberg

David Vandenberg - Managing Director

State of Origin: NM

Accrediting Authority: N/A ID:N/A QAPP: DOD Ver 4.1 without flagging





Microbac Laboratories * Ohio Valley Division 158 Starlite Drive, Marietta, OH 45750 * T: (740) 373-4071 F: (740) 373-4835 * www.microbac.com



Lab Report #: L13111086 Lab Project #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

Generated: 12/04/2013 13:44

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

The following discrepancies were noted:

Discrepancy	Resolution
The sample(s) were out of the acceptable pH range: SMW1-113-1 For Metals and CN, SMW4-1113-1 for Metals and CN. RS Added 5ml HNO3 Lot#: RGT 28681 11/18/13 @ 1620. PH did adjust. CLS Added 3ml NAOH Lot#: 2211493 11/18/13 @ 1620. PH did adjust. CLS	Please adjust.

C	oolers					
	Cooler #	Cooler # Temperature Gun Temperature		COC#	Airbill #	Temp Required?
	00110908	Н	0.0		1001846922260004575000803738596986	X

spection Che	cklist	
#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	Yes
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
LO	Were correct preservatives used? (water only)	Yes
.1	Were pH ranges acceptable? (voa's excluded)	No
12	Were VOA samples free of headspace (less than 6mm)?	NA



Lab Report #: L13111086 **Lab Project #:** 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

Samples Received								
Client ID	Laboratory ID	Date Collected	Date Received					
SMW 1-1113-1	L13111086-01	11/15/2013 10:00	11/16/2013 09:57					
SMW 4-1113-1	L13111086-02	11/15/2013 11:50	11/16/2013 09:57					



Login Number: L13111086 **Department**: Conventionals **Analyst:** Tammy Morris

METHOD

Analysis SW846 9040C,9045D/EPA 150.1/SM4500-H B (pH)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 75486

Imma/bsson

Approved By: Deanna Hesson

Page 1 of 1



Login Number: L13111086 Department: Metals Analyst: Ji Hu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6010

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG454446 - All acceptance criteria were met.

Page 1 of 2 Generated at Dec 3, 2013 11:49

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: WG454399 - Client samples 01 and 02 required dilution analyses in order to obtain results for calcium within the calibration range.

Narrative ID: 75443

Approved By: Sheri Pfalzgraf

Sheri L. Harging



Login Number: L13111086 Department: Metals Analyst: Ji Hu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6020

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

Low Level Check: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Page 1 of 2 Generated at Dec 3, 2013 11:51

Serial Dilution/Post Digestion Spikes: WG453994 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 75147

Approved By: Sheri Pfalzgraf



Login Number: L13111086 Department: Metals - AA Analyst: Pierce Morris

METHOD

Preparation: SW-846 7470

Analysis: SW-846 7470

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG453839 - All acceptance criteria were met.

Page 1 of 2 Generated at Dec 3, 2013 11:52

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 75093

Approved By: Sheri Pfalzgraf



Login Number: L13111086

Department: General Chromatography

Analyst: Jeremy Kinney

METHOD

Analysis EPA300.0/SW846 9056

HOLDING TIMES

Sample Analysis: Hold times for NO2 and NO3 are 48 hours and the hold times for F, Cl, Br, and SO4 are 28 days. The hold time forms calculate the hold time based on 48 hours. All samples were analyzed in hold.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: The client did not specify an MS/MSD for this sample delivery group. The laboratory selected sample 01 for MS/MSD analysis and recoveries out of range were observed for Fluoride, Sulfate. Please see the applicable QC report for a detailed presentation of the failures.

SAMPLES

Samples: All acceptance criteria were met.

MANUAL INTEGRATION: No manual integration required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as

Page 1 of 2

Generated at Nov 25, 2013 09:13

verified by the following signature.

Narrative ID: 74995

Approved By: Eric Lawson En C. Turn

Page 2 of 2

Generated at Nov 25, 2013 09:13



Login Number: L13111086 Department: Conventionals Analyst: Brice Fenton

METHOD

Analysis EPA 310.2 (Alkalinity)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 75484

Imma/bsson

Approved By: Deanna Hesson

Page 1 of 1



Login Number: L13111086 Department: Conventionals

Analyst:

METHOD

Analysis SW846 9014/9010C/SM4500-CN-C,E-20th (Cyanide)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Cyanide-Ammenable is the difference between the total cyanide and the treated cyanide. The LCS is analyzed to show that all of the cyanide is ammenable (the treated portion is ND). The LCS forms cannot calculate cyanide ammenable. The LCS is acceptable.

Sample #	Analyte	Date	Result	Lower	Upper	Туре
WG453588-02	Cyanide	2013-11-21 13:30:04	2.00	90	110	Recovery

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

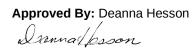
SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 75109

Page 1 of 2





Login Number: L13111086 Department: Conventionals Analyst: Deanna Hesson

METHOD

Analysis EPA 120.1/SM2510 B (Conductivity)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 75485

Imma/bsson

Approved By: Deanna Hesson

Page 1 of 1



Login Number: L13111086 Department: Conventionals Analyst: Brice Fenton

METHOD

Analysis EPA 350.1/SM4500-NH3 B(NH3)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 75487

Imma/bsson

Approved By: Deanna Hesson

Page 1 of 1

Generated at Nov 27, 2013 13:57

Generated: 12/04/2013 13:44



Login Number: L13111086 Department: Conventionals Analyst: Brice Fenton

METHOD

Analysis EPA 353.2/SM4500-NO3 F (Nitrate)

HOLDING TIMES

Sample Analysis: The instrument used for the analysis of nitrate only analyzes for nitrate-nitrite (NO3NO2) which is the amount of total nitrate (NO3) and nitrite (NO2) combined. The NO3 concentration is determined by analyzing for NO3NO2 and NO2 and calculating NO3 by the difference. An unpreserved bottle only has a 48 hour hold time for NO3 and NO2 separately. However if the bottle is preserved with sulfuric acid, the hold time for NO3NO2 is 28 days. The NO2 was analyzed within 48 hours. The NO3NO2 was analyzed from a preserved container within 28 days..

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 75488

Approved By: Deanna Hesson

Page 1 of 2





Login Number: L13111086 Department: Conventionals Analyst: Tammy Morris

METHOD

Analysis EPA 365.2/SM4500-P E (Orthophosphate)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 75489

Dannalpsson

Approved By: Deanna Hesson

Page 1 of 1



Login Number: L13111086 Department: Conventionals Analyst: April Greene

METHOD

Analysis EPA 160.1/SM2540 C(Total Dissolved Solids)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: Total Dissolved Solids. Please see the applicable QC report for a detailed presentation of the failures.

Sample #	Analyte	Date	Result	Lower	Upper	Туре
WG453716-03	Total Dissolved Solids	2013-11-21 07:42:03	13.9		10	RPD

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 75492

Approved By: Deanna Hesson

Page 1 of 2





Login Number: L13111086 Department: Conventionals Analyst: Deanna Hesson

METHOD

Analysis Water: EPA 415.1/SM5310C/SW846 9060 (Total Organic Carbon)

Soil: Lloyd-Khan Methodology

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 75490

Immallesson

Approved By: Deanna Hesson

Page 1 of 2



Login Number: L13111086 Department: Conventionals Analyst: April Greene

METHOD

Analysis EPA 160.2/SM2540 D (Total Suspended Solids)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 75491

Imma/bsson

Approved By: Deanna Hesson

Page 1 of 1

Generated at Nov 27, 2013 13:57

Generated: 12/04/2013 13:44



Lab Project #: 131111086
Lab Project #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-01 PrePrep Method: N/A Instrument: PE-ICP2

 Client ID:
 SMW 1-1113-1
 Prep Method:
 3015
 Prep Date:
 11/25/2013 14:18

 Matrix:
 Water
 Analytical Method:
 6010B
 Cal Date:
 11/26/2013 11:28

 Workgroup #:
 WG454446
 Analyst:
 JYH
 Run Date:
 11/26/2013 16:50

 Collect Date:
 11/15/2013 10:00
 Dilution:
 1
 File ID:
 P2.112613.165034

Sample Tag: 01 Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD	
Beryllium, Tota	I	7440-41-7		U	0.00200	0.00100	
Magnesium, To	otal	7439-95-4	8.23		0.500	0.250	
Potassium, Tot	al	7440-09-7	1.95		1.00	0.500	
Sodium, Total		7440-23-5	24.9		0.500	0.250	
Tin, Total		7440-31-5		U	0.500	0.250	
Vanadium, Tota	al	7440-62-2		U	0.0100	0.00500	
Zinc, Total		7440-66-6	0.0238		0.0200	0.0100	
U	Analyte was not detected. The concentration is below the reported LOD.						

L13111086 / Revision: 0 / 59 total pages Generated: 12/04/2013 13:44



 Lab Report #:
 L13111086

 Lab Project #:
 3005.011

 Project Name:
 White Sands MR

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-01 PrePrep Method: N/A Instrument: PE-ICP2

 Client ID:
 SMW 1-1113-1
 Prep Method:
 3015
 Prep Date:
 11/25/2013 14:18

 Matrix:
 Water
 Analytical Method:
 6010B
 Cal Date:
 11/27/2013 13:58

 Workgroup #:
 WG454446
 Analyst:
 JYH
 Run Date:
 11/27/2013 16:31

 Collect Date:
 11/15/2013 10:00
 Dilution:
 10
 File ID:
 P2.112713.163135

Sample Tag: DL01 Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD	
Calcium, Total		7440-70-2	29.6		5.00	2.50	
U	U Analyte was not detected. The concentration is below the reported LOD.						

Page 2 of 26 Generated at Dec 4, 2013 13:40



Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-01 PrePrep Method: N/A Instrument: ICP-MS2

 Client ID:
 SMW 1-1113-1
 Prep Method:
 3015
 Prep Date:
 11/22/2013 10:20

 Matrix:
 Water
 Analytical Method:
 6020
 Cal Date:
 11/22/2013 09:47

 Workgroup #:
 WG453994
 Analyst:
 JYH
 Run Date:
 11/22/2013 15:10

 Collect Date:
 11/15/2013 10:00
 Dilution:
 1
 File ID:
 NI.112213.151013

Sample Tag: 01 Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD
Antimony, Total		7440-36-0		U	0.00100	0.000500
Arsenic, Total		7440-38-2	0.00282		0.00100	0.000500
Barium, Total		7440-39-3	0.0704		0.00300	0.00150
Cadmium, Total		7440-43-9		U	0.000600	0.000300
Chromium, Tota	ļ	7440-47-3		U	0.00200	0.00100
Cobalt, Total		7440-48-4		U	0.00100	0.000500
Copper, Total		7440-50-8		U	0.00200	0.00100
Lead, Total		7439-92-1		U	0.00100	0.000500
Manganese, Tot	al	7439-96-5	0.00467		0.00200	0.00100
Nickel, Total		7440-02-0		U	0.00400	0.00200
Selenium, Total		7782-49-2	0.0113		0.00100	0.000500
Silver, Total		7440-22-4		U	0.00100	0.000500
Thallium, Total		7440-28-0		U	0.000200	0.000100
U	Analyte was not detected. The cond	centration is below the reported	LOD.		'	

Page 3 of 26 Generated at Dec 4, 2013 13:40

Generated: 12/04/2013 13:44



Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-01 PrePrep Method: N/A Instrument: CVAA1

 Client ID:
 SMW 1-1113-1
 Prep Method:
 7470A
 Prep Date:
 11/21/2013 10:05

 Matrix:
 Water
 Analytical Method:
 7470A
 Cal Date:
 11/22/2013 09:05

 Workgroup #:
 WG453839
 Analyst:
 PDM
 Run Date:
 11/22/2013 09:28

 Collect Date:
 11/15/2013 10:00
 Dilution:
 1
 File ID:
 M7.112213.092821

Sample Tag: 01 Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U Analyte was not detected. The concentration is below the reported LOD.						

Page 4 of 26 Generated at Dec 4, 2013 13:40



Lab Report #: L13111086

Lab Project #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-01 PrePrep Method: N/A Instrument: IC1

 Client ID:
 SMW 1-1113-1
 Prep Method:
 300.0
 Prep Date:
 11/21/2013 09:20

 Matrix:
 Water
 Analytical Method:
 300.0
 Cal Date:
 11/06/2013 10:26

 Workgroup #:
 WG453893
 Analyst:
 JBK
 Run Date:
 11/21/2013 13:55

 Collect Date:
 11/15/2013 10:00
 Dilution:
 1
 File ID:
 11 112113-19

Sample Tag: 01 Units: mg/L

Analyte	CAS#	Result	Qual	LOQ	LOD
Chloride	16887-00-6	18.5		0.200	0.100
Fluoride	16984-48-8	0.293		0.200	0.100
Sulfate	14808-79-8	62.7		1.00	0.500

Sample #: L13111086-01 PrePrep Method: N/A Instrument: ORION-4STAR

Client ID: SMW 1-1113-1 Prep Method: 9040C Prep Date: N/A

Matrix: Water Analytical Method: 9040C Cal Date:

 Workgroup #:
 WG453150
 Analyst:
 TMM
 Run Date:
 11/16/2013 13:08

 Collect Date:
 11/15/2013 10:00
 Dilution:
 1
 File ID:
 OS13112114431301

Sample Tag: Units: UNITS

Analyte	CAS#	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	6.62		0.000	0.000
Temperature At Determination (C)		18.7		0.000	0.000

Sample #: L13111086-01 PrePrep Method: N/A Instrument: SMARTCHEM2

Client ID: SMW 1-1113-1 Prep Method: 310.2 Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 310.2
 Cal Date:
 11/25/2013 10:41

 Workgroup #:
 WG454148
 Analyst:
 BAF
 Run Date:
 11/25/2013 10:48

 Collect Date:
 11/15/2013 10:00
 Dilution:
 1
 File ID:
 S2131125002.019

Sample Tag: 01 Units: mg/L

Analyte	CAS#	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	84.9		20.0	10.0

Sample #: L13111086-01 PrePrep Method: N/A Instrument: SMARTCHEM2

 Matrix:
 Water
 Analytical Method:
 310.2
 Cal Date:
 11/25/2013 10:41

 Workgroup #:
 WG454148
 Analyst:
 BAF
 Run Date:
 11/25/2013 10:48

 Collect Date:
 11/15/2013 10:00
 Dilution:
 1
 File ID:
 S2131125002.019

Sample Tag: 01 Units: mg/L

Page 5 of 26 Generated at Dec 4, 2013 13:40



Lab Project #: 13111086
Lab Project #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

Certificate of Analysis

	Analyte	CAS#	Result	Qual	LOQ	LOD
Alkalinity, Carb	onate (as CaCO3)	13-01-4		U	20.0	10.0
U Analyte was not detected. The concentration is below the reported LOD.						

Page 6 of 26 Generated at Dec 4, 2013 13:40



Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-01 PrePrep Method: N/A Instrument: SMARTCHEM2

Client ID: SMW 1-1113-1 Prep Method: 310.2 Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 310.2
 Cal Date:
 11/25/2013 10:41

 Workgroup #:
 WG454148
 Analyst:
 BAF
 Run Date:
 11/25/2013 10:48

 Collect Date:
 11/15/2013 10:00
 Dilution:
 1
 File ID:
 S2131125002.019

Sample Tag: 01 Units: mg/L

Analyte	CAS#	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	84.9		20.0	10.0

Sample #: L13111086-01 PrePrep Method: N/A Instrument: UV-120-1V

Client ID: SMW 1-1113-1 Prep Method: SM4500-CN-I Prep Date: N/A

Matrix: Water Analytical Method: SM4500-CN-I Cal Date: 11/21/2013 10:20

 Workgroup #:
 WG453794
 Analyst:
 DCM
 Run Date:
 11/21/2013 13:10

 Collect Date:
 11/15/2013 10:00
 Dilution:
 1
 File ID:
 1V.1311211310-16

Sample Tag: DL01 Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable		57-12-5		U	0.0100	0.00500
U Analyte was not detected. The concentration is below the reported LOD.						

Page 7 of 26 Generated at Dec 4, 2013 13:40



Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-01 PrePrep Method: N/A Instrument: UV-120-1V

Client ID: SMW 1-1113-1 Prep Method: SM4500-CN-C,G-1999 Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 SM4500-CN-C,G-1999
 Cal Date:
 11/21/2013 10:20

 Workgroup #:
 WG453588
 Analyst:
 DCM
 Run Date:
 11/21/2013 13:30

 Collect Date:
 11/15/2013 10:00
 Dilution:
 1
 File ID:
 1V.1311211330-12

Sample Tag: DL02 Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD
Cyanide, Amen	able to Chlor.	57-12-5		U	0.0100	0.00500
U Analyte was not detected. The concentration is below the reported LOD.						

Page 8 of 26 Generated at Dec 4, 2013 13:40

L13111086 / Revision: 0 / 59 total pages Generated: 12/04/2013 13:44



Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-01 PrePrep Method: N/A Instrument: UV-120-1V

Client ID: SMW 1-1113-1 Prep Method: 9014-9010C Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 9014-9010C
 Cal Date:
 11/21/2013 10:20

 Workgroup #:
 WG453554
 Analyst:
 DCM
 Run Date:
 11/21/2013 11:30

 Collect Date:
 11/15/2013 10:00
 Dilution:
 1
 File ID:
 1V.1311211130-16

Sample Tag: Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD
Cyanide		57-12-5		U	0.0100	0.00500
U Analyte was not detected. The concentration is below the reported LOD.						

Page 9 of 26 Generated at Dec 4, 2013 13:40



Lab Report #: L13111086
Lab Project #: 3005.011
Project Name: White Sands MR
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-01 PrePrep Method: N/A Instrument: TIAMO1

Client ID: SMW 1-1113-1 Prep Method: 120.1 Prep Date: N/A

Matrix: Water Analytical Method: 120.1 Cal Date:

 Workgroup #:
 WG453304
 Analyst:
 DIH
 Run Date:
 11/19/2013 00:52

 Collect Date:
 11/15/2013 10:00
 Dilution:
 1
 File ID:
 TI.111913.0052CO

Sample Tag: 01 Units: umhos/cm

Analyte	CAS#	Result	Qual	LOQ	LOD
Conductivity		360		50.0	10.0

Sample #: L13111086-01 PrePrep Method: N/A Instrument: SMARTCHEM

Client ID: SMW 1-1113-1 Prep Method: 350.1 Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 350.1
 Cal Date:
 11/26/2013 13:04

 Workgroup #:
 WG454400
 Analyst:
 BAF
 Run Date:
 11/26/2013 13:23

 Collect Date:
 11/15/2013 10:00
 Dilution:
 1
 File ID:
 SC131126003.032

Sample Tag: 01 Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD
Nitrogen, Amm	onia	7664-41-7		U	0.100	0.0500
U Analyte was not detected. The concentration is below the reported LOD.						

Page 10 of 26 Generated at Dec 4, 2013 13:40



Lab Report #: L13111086

Lab Project #: 3005.011

Project Name: White Sands MR

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-01 PrePrep Method: N/A Instrument: SMARTCHEM

Client ID: SMW 1-1113-1 Prep Method: 353.2 Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 353.2
 Cal Date:
 11/18/2013 10:58

 Workgroup #:
 WG453286
 Analyst:
 BAF
 Run Date:
 11/18/2013 17:46

 Collect Date:
 11/15/2013 10:00
 Dilution:
 4
 File ID:
 SC13112213194201

Sample Tag: Units: mg/L

Analyte	CAS#	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		2.86		0.200	0.100

Sample #: L13111086-01 PrePrep Method: N/A Instrument: UV-120-1V

Client ID: SMW 1-1113-1 Prep Method: SM4500-P-E-1999 Prep Date: N/A

Matrix: Water Analytical Method: SM4500-P-E-1999 Cal Date: 10/30/2013 09:00

 Workgroup #:
 WG453085
 Analyst:
 TMM
 Run Date:
 11/16/2013 13:00

 Collect Date:
 11/15/2013 10:00
 Dilution:
 1
 File ID:
 1V.1311161300-07

Sample Tag: Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD
Orthophosphat	e	14265-44-2	0.0481	J	0.0500	0.0250
J Estimated value ; the analyte concentration was less than the LOQ.						

Page 11 of 26 Generated at Dec 4, 2013 13:40



Certificate of Analysis

Sample #: L13111086-01 PrePrep Method: N/A Instrument: OVEN

Client ID: SMW 1-1113-1 Prep Method: 160.1/SM2540C Prep Date: N/A

Matrix: WaterAnalytical Method: SM2540-C-1997Cal Date:

 Workgroup #:
 WG453716
 Analyst:
 ADG
 Run Date:
 11/21/2013 07:42

 Collect Date:
 11/15/2013 10:00
 Dilution:
 1
 File ID:
 EN.1311210742-16

Sample Tag: Units: mg/L

Analyte	CAS#	Result	Qual	LOQ	LOD
Total Dissolved Solids		238		20.0	10.0

Sample #: L13111086-01 PrePrep Method: N/A Instrument: TOC-VWP

 Matrix:
 Water
 Analytical Method:
 415.1
 Cal Date:
 07/09/2013 14:51

 Workgroup #:
 WG454385
 Analyst:
 DIH
 Run Date:
 11/26/2013 21:34

 Collect Date:
 11/15/2013 10:00
 Dilution:
 1
 File ID:
 TC11262013.046

Sample Tag: 01 Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD
Total Organic O	Carbon	TOC	0.775	J	1.00	0.500
J Estimated value ; the analyte concentration was less than the LOQ.						

Page 12 of 26 Generated at Dec 4, 2013 13:40



Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-01 PrePrep Method: N/A Instrument: OVEN

Prep Date: N/A

Client ID: SMW 1-1113-1

Matrix: Water

Prep Method: 160.2/SM2540D **Analytical Method:** SM2540-D-1997

Cal Date:

Workgroup #: WG453718

Analyst: ADG

Run Date: 11/21/2013 07:17

Collect Date: 11/15/2013 10:00

Dilution: 1

File ID: EN.1311210717-12

Sample Tag:

Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD
Total Suspende	ed Solids			U	5.00	2.50
U	Analyte was not detected. The concentration is	below the reported	LOD.			

Page 13 of 26 Generated at Dec 4, 2013 13:40



Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-02 PrePrep Method: N/A Instrument: PE-ICP2

 Client ID:
 SMW 4-1113-1
 Prep Method:
 3015
 Prep Date:
 11/25/2013 14:18

 Matrix:
 Water
 Analytical Method:
 6010B
 Cal Date:
 11/26/2013 11:28

 Workgroup #:
 WG454446
 Analyst:
 JYH
 Run Date:
 11/26/2013 16:53

 Collect Date:
 11/15/2013 11:50
 Dilution:
 1
 File ID:
 P2.112613.165337

Sample Tag: 01 Units: mg/L

Analyte	CAS#	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	8.34		0.500	0.250
Potassium, Total	7440-09-7	1.96		1.00	0.500
Sodium, Total	7440-23-5	25.5		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Vanadium, Total	7440-62-2		U	0.0100	0.00500
Zinc, Total	7440-66-6	0.0274		0.0200	0.0100
U Analyte was not detec	ted. The concentration is below the reported L	_OD.	1		

Page 14 of 26 Generated at Dec 4, 2013 13:40



 Lab Report #:
 L13111086

 Lab Project #:
 3005.011

 Project Name:
 White Sands MR

Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-02 PrePrep Method: N/A Instrument: PE-ICP2

 Client ID:
 SMW 4-1113-1
 Prep Method:
 3015
 Prep Date:
 11/25/2013 14:18

 Matrix:
 Water
 Analytical Method:
 6010B
 Cal Date:
 11/27/2013 13:58

 Workgroup #:
 WG454446
 Analyst:
 JYH
 Run Date:
 11/27/2013 16:35

 Collect Date:
 11/15/2013 11:50
 Dilution:
 10
 File ID:
 P2.112713.163518

Sample Tag: DL01 Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD
Calcium, Total		7440-70-2	38.0		5.00	2.50
U Analyte was not detected. The concentration is below the reported LOD.						

Page 15 of 26 Generated at Dec 4, 2013 13:40



Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-02 PrePrep Method: N/A Instrument: ICP-MS2

 Client ID:
 SMW 4-1113-1
 Prep Method:
 3015
 Prep Date:
 11/22/2013 10:20

 Matrix:
 Water
 Analytical Method:
 6020
 Cal Date:
 11/22/2013 09:47

 Workgroup #:
 WG453994
 Analyst:
 JYH
 Run Date:
 11/22/2013 15:13

 Collect Date:
 11/15/2013 11:50
 Dilution:
 1
 File ID:
 NI.112213.151318

Sample Tag: 01 Units: mg/L

Analyte	CAS#	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00106		0.00100	0.000500
Barium, Total	7440-39-3	0.0708		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00620		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8	0.00233		0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00765		0.00200	0.00100
Nickel, Total	7440-02-0	0.0343		0.00400	0.00200
Selenium, Total	7782-49-2	0.00435		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U Analyte was not detected. The con	centration is below the reported	LOD.			

Page 16 of 26 Generated at Dec 4, 2013 13:40



Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-02 PrePrep Method: N/A Instrument: CVAA1

 Client ID:
 SMW 4-1113-1
 Prep Method:
 7470A
 Prep Date:
 11/21/2013 10:05

 Matrix:
 Water
 Analytical Method:
 7470A
 Cal Date:
 11/22/2013 09:05

 Workgroup #:
 WG453839
 Analyst:
 PDM
 Run Date:
 11/22/2013 09:33

 Collect Date:
 11/15/2013 11:50
 Dilution:
 1
 File ID:
 M7.112213.093325

Sample Tag: 01 Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is	below the reported	LOD.			

Page 17 of 26 Generated at Dec 4, 2013 13:40



Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-02 PrePrep Method: N/A Instrument: IC1

 Client ID:
 SMW 4-1113-1
 Prep Method:
 300.0
 Prep Date:
 11/21/2013 09:20

 Matrix:
 Water
 Analytical Method:
 300.0
 Cal Date:
 11/06/2013 10:26

 Workgroup #:
 WG453893
 Analyst:
 JBK
 Run Date:
 11/21/2013 15:05

 Collect Date:
 11/15/2013 11:50
 Dilution:
 1
 File ID:
 11 112113-23

Sample Tag: 01 Units: mg/L

Analyte	CAS#	Result	Qual	LOQ	LOD
Chloride	16887-00-6	23.8		0.200	0.100
Fluoride	16984-48-8	0.276		0.200	0.100
Sulfate	14808-79-8	58.2		1.00	0.500

Sample #: L13111086-02 PrePrep Method: N/A Instrument: ORION-4STAR

Client ID: SMW 4-1113-1 Prep Method: 9040C Prep Date: N/A

Matrix: Water Analytical Method: 9040C Cal Date:

 Workgroup #:
 WG453150
 Analyst:
 TMM
 Run Date:
 11/16/2013 13:09

 Collect Date:
 11/15/2013 11:50
 Dilution:
 1
 File ID:
 OS13112114431601

Sample Tag: Units: UNITS

Analyte	CAS#	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.12		0.000	0.000
Temperature At Determination (C)		18.9		0.000	0.000

Sample #: L13111086-02 PrePrep Method: N/A Instrument: SMARTCHEM2

Client ID: SMW 4-1113-1 Prep Method: 310.2 Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 310.2
 Cal Date:
 11/25/2013 10:41

 Workgroup #:
 WG454148
 Analyst:
 BAF
 Run Date:
 11/25/2013 10:48

 Collect Date:
 11/15/2013 11:50
 Dilution:
 1
 File ID:
 S2131125002.020

Sample Tag: 01 Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD
Alkalinity, Carbo	onate (as CaCO3)	13-01-4		U	20.0	10.0
U Analyte was not detected. The concentration is below the			LOD.			

Page 43

Page 18 of 26 Generated at Dec 4, 2013 13:40

L13111086 / Revision: 0 / 59 total pages



Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-02 PrePrep Method: N/A Instrument: SMARTCHEM2

Client ID: SMW 4-1113-1 Prep Method: 310.2 Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 310.2
 Cal Date:
 11/25/2013 10:41

 Workgroup #:
 WG454148
 Analyst:
 BAF
 Run Date:
 11/25/2013 10:48

 Collect Date:
 11/15/2013 11:50
 Dilution:
 1
 File ID:
 S2131125002.020

Sample Tag: 01 Units: mg/L

Analyte	CAS#	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	88.2		20.0	10.0

Sample #: L13111086-02 PrePrep Method: N/A Instrument: SMARTCHEM2

Client ID: SMW 4-1113-1 Prep Method: 310.2 Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 310.2
 Cal Date:
 11/25/2013 10:41

 Workgroup #:
 WG454148
 Analyst:
 BAF
 Run Date:
 11/25/2013 10:48

 Collect Date:
 11/15/2013 11:50
 Dilution:
 1
 File ID:
 S2131125002.020

Sample Tag: 01 Units: mg/L

Analyte	CAS#	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	88.2		20.0	10.0

Sample #: L13111086-02 PrePrep Method: N/A Instrument: UV-120-1V

Client ID: SMW 4-1113-1 Prep Method: SM4500-CN-I Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 SM4500-CN-I
 Cal Date:
 11/21/2013 10:20

 Workgroup #:
 WG453794
 Analyst:
 DCM
 Run Date:
 11/21/2013 13:10

 Collect Date:
 11/15/2013 11:50
 Dilution:
 1
 File ID:
 1V.1311211310-17

Sample Tag: DL01 Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD
Cyanide, Weal	k/Dissociable	57-12-5		U	0.0100	0.00500
U	Analyte was not detected. The concentration is	below the reported	LOD.			

Page 19 of 26 Generated at Dec 4, 2013 13:40



Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-02

PrePrep Method: N/A

Instrument: UV-120-1V

Client ID: SMW 4-1113-1

Prep Method: 9014-9010C

Prep Date: N/A

Matrix: Water

Analytical Method: 9014-9010C

Cal Date: 11/21/2013 10:20

Workgroup #: WG453554

Analyst: DCM

Run Date: 11/21/2013 11:30

Collect Date: 11/15/2013 11:50

Dilution: 1

Sample Tag:

Units: mg/L

File ID: 1V.1311211130-17

	Analyte	CAS#	Result	Qual	LOQ	LOD
Cyanide		57-12-5		U	0.0100	0.00500
U	Analyte was not detected. The concentration is	below the reported	LOD.			

Page 20 of 26 Generated at Dec 4, 2013 13:40



Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-02 PrePrep Method: N/A Instrument: UV-120-1V

Client ID: SMW 4-1113-1 Prep Method: SM4500-CN-C,G-1999 Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 SM4500-CN-C,G-1999
 Cal Date:
 11/21/2013 10:20

 Workgroup #:
 WG453588
 Analyst:
 DCM
 Run Date:
 11/21/2013 13:30

 Collect Date:
 11/15/2013 11:50
 Dilution:
 1
 File ID:
 1V.1311211330-13

Sample Tag: DL02 Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.		57-12-5		U	0.0100	0.00500
U	Analyte was not detected. The concentration is	below the reported	LOD.			

Page 21 of 26 Generated at Dec 4, 2013 13:40



Certificate of Analysis

Sample #: L13111086-02 PrePrep Method: N/A Instrument: TIAMO1

 Client ID:
 SMW 4-1113-1
 Prep Method:
 120.1
 Prep Date:
 N/A

Matrix: Water Analytical Method: 120.1 Cal Date:

 Workgroup #:
 WG453304
 Analyst:
 DIH
 Run Date:
 11/19/2013 00:54

 Collect Date:
 11/15/2013 11:50
 Dilution:
 1
 File ID:
 TI.111913.0054CO

Sample Tag: 01 Units: umhos/cm

Analyte	CAS#	Result	Qual	LOQ	LOD
Conductivity		373		50.0	10.0

Sample #: L13111086-02 PrePrep Method: N/A Instrument: SMARTCHEM

Client ID: SMW 4-1113-1 Prep Method: 350.1 Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 350.1
 Cal Date:
 11/26/2013 13:04

 Workgroup #:
 WG454400
 Analyst:
 BAF
 Run Date:
 11/26/2013 13:24

 Collect Date:
 11/15/2013 11:50
 Dilution:
 1
 File ID:
 SC131126003.033

Sample Tag: 01 Units: mg/L

	Analyte itrogen, Ammonia		Result	Qual	LOQ	LOD
Nitrogen, Ammonia		7664-41-7	0.0634	J	0.100	0.0500
J	Estimated value ; the analyte concentration wa	s less than the LOQ).			

Page 22 of 26 Generated at Dec 4, 2013 13:40



Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-02 PrePrep Method: N/A Instrument: SMARTCHEM

Client ID: SMW 4-1113-1 Prep Method: 353.2 Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 353.2
 Cal Date:
 11/18/2013 10:58

 Workgroup #:
 WG453287
 Analyst:
 BAF
 Run Date:
 11/18/2013 18:25

 Collect Date:
 11/15/2013 11:50
 Dilution:
 4
 File ID:
 SC13112213251801

Sample Tag: Units: mg/L

Analyte	CAS#	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		3.08		0.200	0.100

Sample #: L13111086-02 PrePrep Method: N/A Instrument: UV-120-1V

Client ID: SMW 4-1113-1 Prep Method: SM4500-P-E-1999 Prep Date: N/A

Matrix: Water Analytical Method: SM4500-P-E-1999 Cal Date: 10/30/2013 09:00

 Workgroup #:
 WG453085
 Analyst:
 TMM
 Run Date:
 11/16/2013 13:00

 Collect Date:
 11/15/2013 11:50
 Dilution:
 1
 File ID:
 1V.1311161300-08

Sample Tag: Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD
Orthophosphat	e	14265-44-2	0.0334	J	0.0500	0.0250
J	Estimated value ; the analyte concentration wa	s less than the LOQ	١.			

Page 23 of 26 Generated at Dec 4, 2013 13:40



Certificate of Analysis

Sample #: L13111086-02 PrePrep Method: N/A Instrument: OVEN

Client ID: SMW 4-1113-1 Prep Method: 160.1/SM2540C Prep Date: N/A

Matrix: Water Analytical Method: SM2540-C-1997 Cal Date:

 Workgroup #:
 WG453716
 Analyst:
 ADG
 Run Date:
 11/21/2013 07:42

 Collect Date:
 11/15/2013 11:50
 Dilution:
 1
 File ID:
 EN.1311210742-17

Sample Tag: Units: mg/L

Analyte	CAS#	Result	Qual	LOQ	LOD
Total Dissolved Solids		212		20.0	10.0

Sample #: L13111086-02 PrePrep Method: N/A Instrument: TOC-VWP

Client ID: SMW 4-1113-1 Prep Method: 415.1 Prep Date: N/A

 Matrix:
 Water
 Analytical Method:
 415.1
 Cal Date:
 07/09/2013 14:51

 Workgroup #:
 WG454385
 Analyst:
 DIH
 Run Date:
 11/26/2013 21:46

 Collect Date:
 11/15/2013 11:50
 Dilution:
 1
 File ID:
 TC11262013.047

Sample Tag: 01 Units: mg/L

	Analyte otal Organic Carbon		Result	Qual	LOQ	LOD
Total Organic C	Carbon	TOC	0.788	J	1.00	0.500
J	Estimated value ; the analyte concentration wa	s less than the LOQ).			

Page 24 of 26 Generated at Dec 4, 2013 13:40



Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #: L13111086-02 PrePrep Method: N/A Instrument: OVEN

 Client ID:
 SMW 4-1113-1
 Prep Method:
 160.2/SM2540D
 Prep Date:
 N/A

Matrix: Water Analytical Method: SM2540-D-1997 Cal Date:

 Workgroup #:
 WG453718
 Analyst:
 ADG
 Run Date:
 11/21/2013 07:17

 Collect Date:
 11/15/2013 11:50
 Dilution:
 1
 File ID:
 EN.1311210717-13

Sample Tag: Units: mg/L

	Analyte	CAS#	Result	Qual	LOQ	LOD
Total Suspende	ed Solids			U	5.00	2.50
U	Analyte was not detected. The concentration is	below the reported	LOD.			

Page 25 of 26 Generated at Dec 4, 2013 13:40

L13111086 / Revision: 0 / 59 total pages Generated: 12/04/2013 13:44



Certificate of Analysis

Page 26 of 26 Generated at Dec 4, 2013 13:40

L13111086 / Revision: 0 / 59 total pages Generated: 12/04/2013 13:44



Certificate of Analysis

Page 1 of 1 Generated at Dec 4, 2013 13:40

L13111086 / Revision: 0 / 59 total pages Generated: 12/04/2013 13:44

Microbac Laboratories Inc. Ohio Valley Division Analyst List December 4, 2013

001 - BIO-CHEM TESTING WVDEP 220 002 - REIC Consultants, Inc. WVDEP 060 003 - Sturm Environmental 004 - MICROBAC PITTSBURGH ADC - ANTHONY D. CANTER ADG - APRIL D. GREENE AML - TONY M. LONG BAF - BRICE A. FENTON AJF - AMANDA J. FICKIESEN BAF - BRICE A. FENTON

BJO - BRIAN J. OGDEN

BLG - BRENDA L. GREENWALT

BRG - BRENDA R. GREGORY

CAA - CASSIE A. AUGENSTEIN

CAF - CHERYL A. FLOWERS

CLC - CHRYS L. CRAWFORD

CLS - CARA L. STRICKLER

CLW - CHARISSA L. WINTERS

CRW - CHRISTINA R. WILSON

CSH - CHRIS S. HILL

CTB - CHRIS T. BUCINA

DAK - DEAN A. K

DOM - DAVID C. MERCKLE AZH - AFTER HOURS DDE - DEBRA D. ELLIOTT
DIH - DEANNA I. HESSON
DLP - DOROTHY L. PAYNE
DSM - DAVID S. MOSSOR DEV - DAVID E. VANDENBERG DLB - DAVID L. BUMGARNER DLR - DIANNA L. RAUCH ECL - ERIC C. LAWSON EDL - ERIN D. LONG ENY - EMILY N. YOAK EPT - ETHAN P. TIDD ERP - ERIN R. PORTER FJB - FRANCES J. BOLDEN HJR - HOLLY J. REED
JDH - JUSTIN D. HESSON
JLL - JOHN L. LENT HCB - HEIDI C. BROWN JBK - JEREMY B. KINNEY JKS - JANE K. SCHAAD JWS - JACK W. SHEAVES KDW - KATHRYN D. WELCH JWR - JOHN W. RICHARDS JYH - JI Y. HU KHR - KIM H. RHODES

KRB - KAELY R. BECKER

LKN - LINDA K. NEDEFF

LSB - LESLIE S. BUCINA

MDA - MIKE D. ALBERTSON

MES - MARY E. SCHILLING

MMB - MAREN M. BEERY

MSW - MATT S. WILSON KEB - KATIE E. BARNES
KRA - KATHY R. ALBERTSON KRA - KATHI R. ALBERTSON

KSC - KELLY S. CUNNINGHAM

LLS - LARRY L. STEPHENS

MBK - MORGAN B. KNOWLTON

MDC - MIKE D. COCHRAN

MLW - MATTHEW L. WARREN

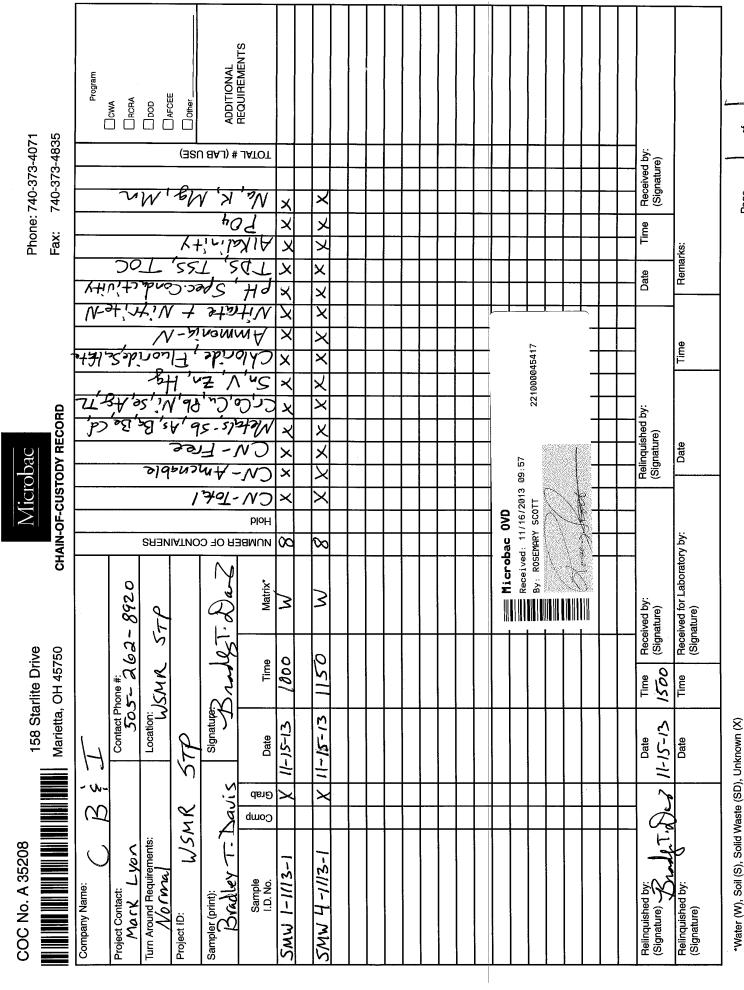
MRT - MICHELLE R. TAYLOR PDM - PIERCE D. MORRIS PIT - MICROBAC WARRENDALE PSW - PEGGY S. WEBB QX - QIN XU REK - BOB E. KYER RAH - ROY A. HALSTEAD RM - RAYMOND MALEKE RLB - BOB BUCHANAN RNP - RICK N. PETTY RS - ROSEMARY SCOTT RWC - RODNEY W. CAMPBELL SAV - SARAH A. VANDENBERG SEP - SUZANNE J. PAUGH SLM - STEPHANIE L. MOSSBURG SLP - SHERI L. PFALZGRAF TLC - TYLER L. CORDELL TMB - TIFFANY M. BAILEY TMM - TAMMY M. MORRIS VC - VICKI COLLIER TPA - TYLER P. AMRINE WJB - WILL J. BEASLEY WTD - WADE T. DELONG XXX - UNAVAILABLE OR SUBCONTRACT

Microbac Laboratories Inc. List of Valid Qualifiers December 04, 2013

Qualkey: DOD

Sungate or spile compound out of range Condition coefficient for the MA is less than 0.995 Result is less than the associated numerical value. Greater than A See the report narrative B The reported result is associated with a contaminated method blank. B1 Target analyse detected in method blank at or above the method reporting limit Target analyse detected in method blank at or above the method reporting limit C Confirmed by GC/MS C Confirmed by GC/MS C Confirmed by GC/MS C C C C C C C C C C C C C C C C C C C	Qualifier	Description
Correlation celeficient (but the MSA is assistant 0.995 Result is less than the associated numerical value. Greater than A See the report narrative B The reported result is associated numerical value. Greater than A See the report narrative B The reported result is associated numerical value. B The reported result is associated with a contaminated method blank. B1 Target analyte detected in method blank at or above the method reporting limit B3 Target analyte detected in calibration blank at or above the method reporting limit B4 The BOD unseeded dilution water blank exceeded 0.2 mg/L C C Confirmed by GCMS C C C Confirmed by GCMS C C C Confirmed by GCMS C C C C C C C C C C C C C C C C C C C		
Result is less than the associated numerical value. Creater than A See the report narrative B The reported result is associated with a contaminated method blank. Bit Target analyte detected in method blank at or above the method reporting limit Target analyte detected in method blank at or above the method reporting limit Target analyte detected in method blank at or above the method reporting limit B Target analyte detected in method blank at or above the method reporting limit B Target analyte detected in method blank at or above the method reporting limit B C Confirmed by GC/MS C C C C C C C C C C C C C C C C C C C		
A See the report narrative B The reported result is associated with a contaminated method blank. B1 Target analyte detected in method blank at or above the method reporting limit B3 Target analyte detected in method blank at or above the method reporting limit B4 The B0D unseeded diution water blank occured to 2 mg/L C Confirmed by CC/MS C C Confirmed by CC/MS C C C C C C C C C C C C C C C C C C C		
B The reported result is associated with a contaminated method blank. B1 Target analyte detected in method blank at or above the method reporting limit Target analyte detected in cubiration blank at or above the method reporting limit Target analyte detected in cubiration blank at or above the method reporting limit The BOD unseeded dilution water blank exceeded 0.2 mg/L C Confirmed by GC/MS CG Confluent growth The cooler serve compound was diluted on E Estimated concentration due to sample matrix interference E Estimated concentration due to sample matrix interference E Estimated Concentration due to sample matrix interference E Estimated Maximum Possible Concentration F, S Estimated walue; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula F, E Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula F, E Estimated value; the analyte concentration was greater than the highest standard F, E Estimated value; the analyte concentration was greater than the highest standard Estimated value; the analyte concentration was greater than the highest standard Estimated value; the analyte concentration was greater than the highest standard Estimated value; the analyte concentration was less than the LOQ. J Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula F, E Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J, B Analyte detected in both the method blank and sample above the MDL. JCT1 Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J, E Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J, E Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J, E Estimated value; the an		
B The reported result is associated with a contaminated method blank. B1 Target analyte detected in method blank at or above the method reporting limit B3 Target analyte detected in method blank at or above the method reporting limit The BOD unseeded dilution water blank exceeded 0.2 mg/L C Confirmed by GC/MS CG Confluent growth CT1 The cooler temperature at receipt exceeded regulatory guidelines for requested testing. D1 Surrogate or spike compound was diluted out E Stimated concentration due to sample matrix interference E Stampet expending the porting limits, presence of non-target analytes E Stimated result below quantitation limit, method of standard additions(MSA) E Stimated result below quantitation limit, method of standard additions(MSA) E Stimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula F rec Liquid H1 Sample analysis performed past holding time. Sample reported result is an estimated value. J E Stimated value; the analyte concentration was greater than the highest standard J E Stimated value; the analyte concentration was less than the RL/LOQ. The reported result is an estimated value. J CTI Stimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula E Stimated value; the analyte concentration was less than the RL/LOQ. The reported result is an estimated value. The r		
B1 Target analyte detected in method blank at or above the method reporting limit B3 Target analyte detected in calibration blank at or above the method reporting limit CC Confirmed by GC/MS CG Confluent growth The BOD unseeded dilution water blank exceeded 0.2 mg/L CC Confirmed by GC/MS CG Confluent growth The cooler temperature at receipt exceeded regulatory guidelines for requested testing. DL Surrogate or spike compound was diluted out DL S		
B4 The BOD unseeded dilution water blank exceeded 0.2 mg/L C Confluent growth The cooler temperature at receipt exceeded regulatory guidelines for requested testing. DL Surrogate or spike compound was diluted out E Estimated concentration due to sample matrix interference EDL Elevated sample reporting limits, presence of non-target analytes EHMPC Estimated Maximum Possible Concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula F, S Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula F, CT1 Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula F, EL Free Liquid H1 Sample analysis performed past holding time. Sample analysis performed past holding time. Sample analysis performed past holding time. J Estimated value; the analyte concentration was greater than the highest standard Estimated value; the analyte concentration was greater than the highest standard Estimated value; the analyte concentration was greater than the RL/LOQ. J The reported result is an estimated value. J, P Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J, P Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J, P Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J, P Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J, P Estimate; columns don't agree to within 40cf standard addition (MSA) J, P Estimate; columns don't agree to within 40cf standard addition (MSA) J, P The reported result is an estimated value and one or more quality control criteria failed. See narrative. Sample reporting limits (RL/MDL) N N N N N N N N N N N N N N N N N N N		
C Confirmed by GCMS CG Confuent growth CT1 The cooler temperature at receipt exceeded regulatory guidelines for requested testing. DL Surrogate or spike compound was diluted out E Estimated concentration due to sample matrix interference EDL Elevated sample reporting limits, presence of non-larget analytes EHMPC Estimated Maximum Possible Concentration F, S Estimated result below quantitation limit; method of standard additions(MSA) F, CT1 Estimated result below quantitation limit; method of standard additions(MSA) F, CT1 Estimated result below quantitation limit; method of standard additions(MSA) F, CT1 Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula F, Free Liquid H1 Sample analysis performed past holding time. Semiquantitative result (out of instrument calibration range) J Estimated value; the analyte concentration was greater than the highest standard Estimated value; the analyte concentration was greater than the highest standard J Estimated value; the analyte concentration was greater than the highest standard J Estimated value; the analyte concentration was less than the LOQ. The reported result is an estimated value. J, J	B3	Target analyte detected in calibration blank at or above the method reporting limit
CG Confluent growth The cooler temperature at receipt exceeded regulatory guidelines for requested testing. DL Surrogate or spike compound was diluted out E Estimated concentration due to sample matrix interference EDL Elevated sample reporting limits, presence of non-target analytes EMPC Estimated Maximum Possible Concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula F, S Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula F, CT1 Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula F, Estimated value; the analyte concentration range) Estimated value; the analyte concentration was less than the RL/LOQ. J Estimated value; the analyte concentration was less than the LL/Q. J The reported result is an estimated value; J, Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J, Estimated value; the analyte concentration was less than the RL/LOQ. J, Estimated value; the analyte concentration was less than the RL/LOQ. J, Estimated value; the analyte concentration was less than the RL/LOQ. J, Estimated value; the analyte concentration was less than the RL/LOQ. J, Estimated concentration; analyzed by method of standard addition (MSA) J, Estimated concentration; analyzed by method of standard addition (MSA) J, Estimated concentration; analyzed by method of standard addition (MSA) J, Estimated concentration; analyzed by method of standard addition (MSA) J, Estimated concentration; analyzed by method of standard addition (MSA) J, Estimated concentration; analyzed by method of standard addition (MSA) N, The reported result is an estimated value and one or more quality control criteria failed. See narrative. L Sample reporting limits (Elyconomy was above the laboratory acceptance limits. N, N		
CT1 DL Surrogate or spike compound was diffused out E Estimated concentration due to sample matrix interference EDL Elevated sample reporting limits, presence of non-target analytes EMPC Estimated Maximum Possible Concentration F, S F, CT1 Estimated result below quantitation limit; method of standard additions(MSA) F, CT1 Estimated result below quantitation limit; method of standard additions(MSA) F, CT1 Estimated result below quantitation limit; method of standard additions(MSA) F, CT1 Estimated result below quantitation limit; method of standard additions(MSA) F, CT1 Estimated result below quantitation limit; method of standard additions(MSA) F, CT1 Estimated value; the analyte concentration results are standard J Estimated value; the analyte concentration was greater than the highest standard J Estimated value; the analyte concentration was less than the LCQ. J, CT1 Estimated value; the analyte concentration was less than the RL/LQQ. J, CT1 Estimated value; the analyte concentration was less than the RL/LQQ. J, CT2 Estimated value; the analyte concentration was less than the RL/LQQ. J, CT3 Estimated value; the analyte concentration was less than the RL/LQQ. J, CT3 Estimated value; the analyte concentration was less than the RL/LQQ. J, CT3 Estimated value; the analyte concentration was less than the RL/LQQ. J, CT4 Estimated value; the analyte concentration was less than the RL/LQQ. J, CT5 Estimated concentration; analyzed by method of standard addition (MSA) J, CT5 Estimated concentration; analyzed by method of standard addition (MSA) J, CT5 Estimated concentration; analyzed by method of standard addition (MSA) The reported result is an estimated value and one or more quality control criteria failed. See narrative. Sample reporting limit (RL) and one or more quality control criteria failed. See narrative. N, Nontarget analyte; the analyte is a tentatively identified compound (TIC) by GC/MS NA No totelected; as an estimated value and one or more quality control criteria failed. See narrative. N, No telected; s		,
DL Surrogate or spike compound was diluted out E Estimated concentration due to sample matrix interference EDL Elevated sample reporting limits, presence of non-target analytes EMPC F, S Estimated Maximum Possible Concentration F, S Estimated Maximum Possible Concentration F, S Estimated result below quantitation limit, method of standard additions(MSA) F, CT1 Free Liquid Free Liquid H1 Sample analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula F, F, CT1 Free Liquid Sample analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula F, Estimated concentration; sample matrix interference. J Estimated value: the analyte concentration was greater than the highest standard Estimated value: the analyte concentration was less than the LOQ. J The reported result is an estimated value. Analyte detected in both the method blank and sample above the MDL. J, CT1 Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J, P Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J, F Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J, F Estimated concentration; analyzed by method of standard addition (MSA) JB The reported result is an estimated value. The reported result is also associated with a contaminated method blank. The reported result is an estimated value. The reported result is also associated blank spike (LCS) recovery was above the laboratory acceptance limits. M Matrix effect, the concentration is an estimate due to matrix effect. N N Nonlarget analyte; the analyte is a tentatively identified compound (TIC) by GC/MS N N N N N N N N N N N N N N N N N N N		
E Estimated concentration due to sample matrix interference EMPC Estimated Maximum Possible Concentration F, S Estimated Maximum Possible Concentration F, S Estimated result below quantitation limit, method of standard additions(MSA) F, CT1 Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula FL Sample analysis performed past holding time. I Semiquantitative result (out of instrument calibration range) J Estimated value; the analyte concentration was greater than the highest standard J Estimated value; the analyte concentration was greater than the highest standard J Estimated value; the analyte concentration was less than the LOQ. J Estimated value; the analyte concentration was less than the RL/LOQ. J, B Analyte detected in both the method blank and sample above the MDL. J, CT1 Estimated value; the analyte concentration was less than the RL/LOQ. J, CT1 Estimated value; the analyte concentration was less than the RL/LOQ. J, CT1 Estimated value; the analyte concentration was less than the RL/LOQ. J, CT1 Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J, P Estimate; columns don't agree to within 40% J, S Estimated concentration; analyzed by method of standard addition (MSA) J, B Estimate; columns don't agree to within 40% L Sample reporting limits elevated due to matrix interference L1 The associated blank spike (LCS) recovery was above the laboratory acceptance limits. N Notappicable N Not Applicable N Not Applicable N Not Applicable N Not detected; sample analyte is a tentalively identified compound (TIC) by GC/MS NA Not applicable N Not detected; sample analyte is a tentalively identified compound (TIC) by GC/MS N Not possible to the propring limit (RL/MDL). N, CT1 Not detected; sample analyte is a tentalively identified compound (TIC) by GC/MS N Not detected; sample analyte is a tentalively identified compound (TIC) by GC/MS N Not detected; sample analyte is a tentalively i		
EDIL Elevated sample reporting limits, presence of non-target analytes EMPC Estimated Maximum Possible Concentration F, S Estimated Maximum Possible Concentration F, CT1 FL Free Liquid H1 Sample analysis performed past holding time. Sample analysis performed past holding time. Sample analysis performed past holding time. J Sample analysis performed past holding time. J Estimated concentration; sample matrix interference. J Estimated concentration; sample matrix interference. J Estimated value: the analyte concentration was greater than the highest standard Estimated value: the analyte concentration was greater than the highest standard J Estimated value: the analyte concentration was less than the LOC. The reported result is an estimated value. J, B Analyte detected in both the method blank and sample above the MDL. Stimated value; the analyte concentration was less than the RL/LOC. The cooler temperature at receipt exceeded regula J, P Estimated value; the analyte concentration was less than the RL/LOC. The cooler temperature at receipt exceeded regula J, P Estimated concentration; analyzed by method of standard addition (MSA) JB The reported result is an estimated value and noe or more quality control criteria failed. See narrative. L Sample reporting limits elevated due to matrix interference L Sample reporting limits elevated due to matrix interference L The associated blank spike (LCS) recovery was above the laboratory acceptance limits. M Atix reflect, the concentration is an estimated value and noe or more quality control criteria failed. See narrative. NO NO LOT1 NO LOT1 NO LOT2 NO LOT3 NO LOT3 NO LOT3 NO LOT3 NO LOT4 NO LOT4 NO LOT5		Surrogate or spike compound was unuted out
EMPC F,S Estimated Maximum Possible Concentration F,S F,CT1 Estimated result below quantitation limit; method of standard additions(MSA) F,CT1 Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula F,CC H Sample analysis performed past holding time. I Semiquantitative result (out of instrument calibration range) J Estimated value; the analyte concentration was greater than the highest standard J Estimated value; the analyte concentration was greater than the highest standard J Estimated value; the analyte concentration was less than the LOQ. The reported result is an estimated value. J,B Analyte detected in both the method blank and sample above the MDL. J,CT1 Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J,P Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J,P Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J,P Estimate; columns don't agree to within 40% J,S Estimated concentration; analyzed by method of standard addition (MSA) JB The reported result is an estimated value. The reported result is also associated with a contaminated method blank. JQ The reported result is an estimated value and one or more quality control criteria failed. See narrative. Sample reporting limits elevated due to matrix interference L1 The associated blank spike (LCS) recovery was above the laboratory acceptance limits. N N Nontarget analyte; the analyte is a tentatively identified compound (TIC) by GC/MS NA Not applicable ND ND, CT1 ND, CT1 Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND ND, Solve the second properting limit (RL/MDL). ND, CT1 ND, CT2 Analyte was not detected. The concentration is below the reported LOD. ND concentrations >40% difference between the two GC columns One or		
F, S Estimated result below quantitation limit; method of standard additions(MSA) F, CT1 F, CT1 F, CT1 F, CT2 F, CT3 F, C		
F.CT1 Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula Fre Liquid H1 Sample analysis performed past holding time. Semiquantitative result (out of instrument calibration range) Estimated value; the analyte concentration was greater than the highest standard J Estimated value; the analyte concentration was greater than the highest standard J Estimated value; the analyte concentration was less than the LOQ. The reported result is an estimated value. JB Analyte detected in both the method blank and sample above the MDL. JCT1 Estimated value; the analyte concentration was less than the RL/LOQ. JCT1 Estimated value; the analyte concentration was less than the RL/LOQ. JS Estimated value; the analyte concentration was less than the RL/LOQ. JS Estimated value; the analyte concentration was less than the RL/LOQ. JS Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula Estimate; columns don't agree to within 40% JS Estimated concentration; analyzed by method of standard addition (MSA) JB The reported result is an estimated value. The reported result is also associated with a contaminated method blank. The reported result is an estimated value and one or more quality control criteria failed. See narrative. Sample reporting limits elevated due to matrix interference The associated blank spike (LCS) recovery was above the laboratory acceptance limits. M Matrix effect; the concentration is an estimated due to matrix effect. N Nontarget analyte; the analyte is a tentatively identified compound (TIC) by GC/MS NA Not detected at an accentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND, S1 Not detected. Sample reporting limit (RL/MDL). NN Not detected; sample reporting limit (RL/MDL). NN Not detected; sample reporting limit (RL/MDL). NN Nor found by library search NN Nor		
H1 Sample analysis performed past holding time. Semiquantitative result (out of instrument calibration range) J Estimated concentration; sample matrix interference. J Estimated value; the analyte concentration was greater than the highest standard J Estimated value; the analyte concentration was greater than the highest standard J Estimated value; the analyte concentration was less than the LOQ. The reported result is an estimated value. Analyte detected in both the method blank and sample above the MDL. JCT1 Estimated value; the analyte concentration was less than the RL/LOQ. Testimated value; the analyte concentration was less than the RL/LOQ. The reported result is an estimated value and one of the subject of the		
I Semiquantitative result (out of instrument calibration range) J Estimated value; the analyte concentration was greater than the highest standard Estimated value; the analyte concentration was less than the LOQ. J The reported result is an estimated value. J Handyte detected in both the method blank and sample above the MDL. J.CT1 Estimated value; the analyte concentration was less than the RL/LOQ. J.CT1 Estimated value; the analyte concentration was less than the RL/LOQ. J.F Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J.P Estimated: columns don't agree to within 40% J.S Estimated: columns don't agree to within 40% J.S Estimated: columns don't agree to within 40% J.S Estimated: columns don't agree to within 40% J.B The reported result is an estimated value. The reported result is also associated with a contaminated method blank. J.Q The propried result is an estimated value and one or more quality control criteria failed. See narrative. Sample reporting limits elevated due to matrix interference L1 The associated blank spike (LCS) recovery was above the laboratory acceptance limits. M Matrix effect; the concentration is an estimate due to matrix effect. Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS Not applicable ND Not detected; Sample analysis performed past holding time. ND, L Not detected; Sample analysis performed past holding time. ND, L Not detected; Sample analysis performed past holding time. NN R Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg NS Not objected to analyzed by method of standard addition (MSA) NR Analyte is not required to be analyzed NS Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MS	FL	
J Estimated value ; the analyte concentration was greater than the highest standard J Estimated value; the analyte concentration was greater than the highest standard J He reported result is an estimated value. J,B Analyte detected in both the method blank and sample above the MDL. J,CT1 Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J,P Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J,P Estimated columns don't agree to within 40% J,S Estimated concentration; analyzed by method of standard addition (MSA) J,B The reported result is an estimated value and one or more quality control criteria failed. See narrative. L Sample reporting limits elevated due to matrix interference L Sample reporting limits elevated due to matrix interference L Sample reporting limits elevated due to matrix interference L The associated blank spike (LCS) recovery was above the laboratory acceptance limits. M Matrix effect; the concentration is an estimate due to matrix effect. N Nontarget analyte; the analyte is a tentatively identified compound (TIC) by GC/MS NA Not applicable ND Not detected at or above the reporting limit (RL/MDL). ND, CT1 Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND, H1 Not detected; sample reporting limit (RL/MDL). ND, CT1 Not detected; sample reporting limit (RL/MDL). ND, CT2 Not detected; sample reporting limit (RL/MDL). ND, CT3 Not detected; sample reporting limit (RL/MDL). ND, CT4 Not feel liquid NI Non-ignitable NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q No or more quality control criteria failed. See narrative. Q NS Quantity of sample not sufficient to perform analysis RE Reanalysis confirms reported results are for spike compounds only Library Search Compound TNTC Too numerous to count U A		
J Estimated value : the analyte concentration was greater than the highest standard J The reported result is an estimated value. JB Analyte detected in both the method blank and sample above the MDL. JCT1 Estimated value; the analyte concentration was less than the RL/LOQ. JCT1 Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula JP Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula JP Estimated concentration; analyzed by method of standard addition (MSA) JB Estimated concentration; analyzed by method of standard addition (MSA) The reported result is an estimated value. The reported result is also associated with a contaminated method blank. JQ The reported result is an estimated value and one or more quality control criteria failed. See narrative. Sample reporting limits eleviated due to matrix interference L1 The associated blank spike (LCS) recovery was above the laboratory acceptance limits. M Matrix effect; the concentration is an estimate due to matrix effect. Nontarget analyte; the analyte is a tentatively identified compound (TIC) by GC/MS NA Not applicable ND Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND, L1 Not detected; sample analysis performed past holding time. NP, Not found by library search NF Not found by library search NR Analyte is not required to be analyzed NS Nonignitable NR Analyte is not required to be analyzed NS Congnitable NR Analyte is not required to be analyzed NS Congnitable sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference between the two GC columns One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RE Reanalysis confirms reported results RE Reanalysis confirms reported results P Concentrations > 40% difference between the		
J Estimated value ; the analyte concentration was less than the LOQ. J.B Analyte detected in both the method blank and sample above the MDL. J.CT1 Estimated value; the analyte concentration was less than the RL/LOQ. J.CT1 Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J.P Estimated colorentration; analyzed by method of standard addition (MSA) JB Estimated concentration; analyzed by method of standard addition (MSA) JB The reported result is an estimated by method of standard addition (MSA) JB The reported result is an estimated value and one or more quality control criteria failed. See narrative. L Sample reporting limits elevated due to matrix interference L1 The associated blank spike (LCS) recovery was above the laboratory acceptance limits. L2 The associated blank spike (LCS) recovery was above the laboratory acceptance limits. Matrix effect; the concentration is an estimated use to matrix effect. N Nontarget analyte; the analyte is a tentatively identified compound (TIC) by GC/MS NA Not applicable NO totelected at or above the reporting limit (RL/MDL). ND, CT1 Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND, S1 Not detected; sample analysis performed past holding time. ND, L Not detected; sample reporting limit (RL) elevated due to interference ND, S Not spiked NB Non-ignitable NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q Noe or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RE Reanalysis confirms reported results are for spike compound only Library Search Compound TNTC Ton numerous to count U Analyte was not detected. The concentration is below the reported LOD. Undetected; the MDL and RL are estimated due to quality control discrepancies. Undetected; the MDL and RL are estimated was to quality contr		
J The reported result is an estimated value. J.B Analyte detected in both the method blank and sample above the MDL. J.CT1 Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J.P Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J.P Estimated; columns don't agree to within 40% J.S Estimated concentration; analyzed by method of standard addition (MSA) JB The reported result is an estimated value. The reported result is also associated with a contaminated method blank. JQ The reported result is an estimated value and one or more quality control criteria failed. See narrative. Sample reporting limits elevated due to matrix interference L1 The associated blank spike (LCS) recovery was above the laboratory acceptance limits. The associated blank spike (LCS) recovery was above the laboratory acceptance limits. Matrix effect; the concentration is an estimate due to matrix effect. N Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS NA Not applicable ND, CT1 Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND, L11 NO, L11 NO tidetected; Sample analysis performed past holding time. ND, L11 Not detected; Sample analysis performed past holding time. NO to detected; analyzed by method of standard addition (MSA) NFL No free liquid NR Analyte is not required to be analyzed NS Not spiked P Concentrations > 40% difference between the two GC columns Q Cone or more quality control criteria failed. See narrative. Q One or more quality control criteria failed. See narrative. U Analyte was not detected. The concentration is below the reported LOD. U Analyte was not detected. The concentration is below the reported LOD. U Cuter to sample matrix interference compounds only Library Search Compound TINTC TOTO numerous to count U Condetected; the MDL and RL are estimate		
J.B. Analyte detected in both the method blank and sample above the MDL. J.CT1 Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J.P. Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J.P. Estimated concentration; analyzed by method of standard addition (MSA) J.B. The reported result is an estimated value. The reported result is also associated with a contaminated method blank. J.Q. The reported result is an estimated value and one or more quality control criteria failed. See narrative. Sample reporting limits elevated due to matrix interference L.1 The associated blank spike (LCS) recovery was above the laboratory acceptance limits. M. Matrix effect; the concentration is an estimate due to matrix effect. N. Nontarget analyte; the analyte is a tentatively identified compound (TIC) by GC/MS NA Not applicable ND Not detected or above the reporting limit (RL/MDL). ND, CT1 Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND, H1 Not detected; sample analysis performed past holding time. ND, L. Not detected; sample analysis performed past holding time. NPI Not found by library search NFL Not fround by library search NFL No free liquid NR Analyte is not required to be analyzed NS Not spiked P. Concentrations >40% difference between the two GC columns Q. One or more quality control criteria failed. See narrative. QNS QNS QNS QNS SMI Sample matrix interference on surrogate SP. Reported results are for spike compounds only Library Search Compound TNTC U. Analyte was not detected. The concentration is below the reported LOD. U. Undetected; the MDL and RL are estimated due to quality control discrepancies. U.Q Undetected; the MDL and RL are estimated due to quality control discrepancies. U.Q Undetected; the MDL and RL are estimated due to quality control discrepancies. U.Q Undetected; the MDL and RL are estimated due to		·
J.CT1 J.CT1 J.CT1 J.CT1 J.CT1 Setimated value; the analyte concentration was less than the RL/LOQ. J.CT1 J.CT1 J.CT1 J.CT1 Setimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula Estimate; columns don't agree to within 40% J.S Estimated concentration; analyzed by method of standard addition (MSA) JB The reported result is an estimated value. The reported result is also associated with a contaminated method blank. JQ The reported result is an estimated value and one or more quality control criteria failed. See narrative. Sample reporting limits elevated due to matrix interference L1 The associated blank spike (LCS) recovery was above the laboratory acceptance limits. The associated blank spike (LCS) recovery was below the laboratory acceptance limits. Matrix effect; the concentration is an estimate due to matrix effect. Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS ND		
J.CT1 J.P Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula J.P J.S Estimated concentration; analyzed by method of standard addition (MSA) JB The reported result is an estimated value. The reported result is also associated with a contaminated method blank. The reported result is an estimated value. The reported result is also associated with a contaminated method blank. The reported result is an estimated value and one or more quality control criteria failed. See narrative. Sample reporting limits elevated due to matrix interference L1 The associated blank spike (LCS) recovery was above the laboratory acceptance limits. M Matrix effect; the concentration is an estimate due to matrix effect. N Nontarget analyte; the analyte is a tentatively identified compound (TIC) by GC/MS NA Not applicable ND Not detected at or above the reporting limit (RL/MDL). ND, CT1 Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND, H1 NO detected; sample reporting limit (RL) elevated due to interference ND, S Not detected; analyzed by method of standard addition (MSA) NFL Not found by library search NFL No free liquid NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. Q QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only Library Search Compound TNTC Too numerous to count U Undetected; the MDL and RL are estimated due to quality control discrepancies. Undetected; the analyte was analyzed for, but not delected. Post-digestion spike for furnace AA out of control limits Exceeds regulatory limit		·
J.S. J.S. J.B. The reported result is an estimated value. The reported result is also associated with a contaminated method blank. J.Q. The reported result is an estimated value. The reported result is also associated with a contaminated method blank. J.Q. The reported result is an estimated value and one or more quality control criteria failed. See narrative. L. Sample reporting limits elevated due to matrix interference. L. The associated blank spike (L.CS) recovery was above the laboratory acceptance limits. M. Matrix effect; the concentration is an estimate due to matrix effect. N. Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS NA NA NOT applicable ND Not detected at or above the reporting limit (RL/MDL). ND, CT1 Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND, H. Not detected; sample analysis performed past holding time. ND, L. Not detected; sample reporting limit (RL) elevated due to interference ND, S. Not detected; sample applicable by method of standard addition (MSA) NF Not found by library search NF No free liquid NI Non-ignitable NR Analyte is not required to be analyzed NS Analyte is not required to be analyzed NS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S. Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only U. U. dhetected; the MDL and RL are estimated due to quality control discrepancies. U.Q Undetected; the analyte was analyzed for, but not detected. W. Post-digestion spike for furnace AA out of control limits Exceeds regulatory limit X. Exceeds regulatory limit	J,CT1	
JB The reported result is an estimated value. The reported result is also associated with a contaminated method blank. JQ The reported result is an estimated value and one or more quality control criteria failed. See narrative. L1 The associated blank spike (LCS) recovery was above the laboratory acceptance limits. L2 The associated blank spike (LCS) recovery was above the laboratory acceptance limits. M Matrix effect; the concentration is an estimate due to matrix effect. N Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS NA Not applicable ND Not detected at or above the reporting limit (RL/MDL). ND, CT1 Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND, H1 Not detected; Sample analysis performed past holding time. ND, L Not detected; Sample analysis performed past holding time. ND, S Not detected; sample reporting limit (RL) elevated due to interference ND, S Not found by library search NFL No free liquid NI Non-ignitable NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RE Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
JQ L Sample reporting limits elevated due and one or more quality control criteria failed. See narrative. L1 The associated blank spike (LCS) recovery was above the laboratory acceptance limits. L2 The associated blank spike (LCS) recovery was above the laboratory acceptance limits. M Matrix effect; the concentration is an estimate due to matrix effect. N Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS NA Not applicable ND Not detected at or above the reporting limit (RL/MDL). ND, CT1 Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND, H1 Not detected; Sample analysis performed past holding time. ND, L Not detected; sample reporting limit (RL) elevated due to interference ND, S Not detected; analyzed by method of standard addition (MSA) NFL Not found by library search NFL No free liquid NI Non-ignitable NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RE Reanalysis confirms reported results RE Reanalysis confirms reported results SMI Sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
L Sample reporting limits elevated due to matrix interference ' L1 The associated blank spike (LCS) recovery was above the laboratory acceptance limits. L2 The associated blank spike (LCS) recovery was below the laboratory acceptance limits. M Matrix effect; the concentration is an estimate due to matrix effect. N Nontarget analyte; the analyte is a tentatively identified compound (TIC) by GC/MS NA Not applicable ND Not detected at or above the reporting limit (RL/MDL). ND, CT1 Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND, H1 Not detected; Sample analysis performed past holding time. ND, L Not detected; sample reporting limit (RL) elevated due to interference ND, S Not detected; sample reporting limit (RL) elevated due to interference ND, S Not feeted; sample reporting limit (RL) elevated due to interference NF Not found by library search NF Not found by library search NF Not free liquid NN Non-ignitable NR Analyte is not required to be analyzed NS Not spiked P Concentrations > 40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. Undetected; the Analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		·
L1 The associated blank spike (LCS) recovery was above the laboratory acceptance limits. L2 The associated blank spike (LCS) recovery was below the laboratory acceptance limits. M Matrix effect; the concentration is an estimate due to matrix effect. N Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS NA Not applicable ND Not detected at or above the reporting limit (RL/MDL). ND, CT1 Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND, L Not detected; Sample analysis performed past holding time. ND, L Not detected; sample reporting limit (RL) elevated due to interference ND, S Not detected; analyzed by method of standard addition (MSA) NF Not found by library search NFL No free liquid NI Non-ignitable NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. Undetected; the MDL and RL are estimated due to quality control discrepancies. Undetected; the MDL and RL are estimated due to quality control discrepancies. Undetected; the MDL and RL are estimated due to quality control discrepancies. V Exceeds regulatory limit		
L2 The associated blank spike (LCS) recovery was below the laboratory acceptance limits. M Matrix effect; the concentration is an estimate due to matrix effect. N Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS NA Not applicable ND Not detected at or above the reporting limit (RL/MDL). ND, CT1 Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND, H1 Not detected; Sample analysis performed past holding time. ND, L Not detected; sample reporting limit (RL) elevated due to interference ND, S Not detected; analyzed by method of standard addition (MSA) NF Not found by library search NFL No free liquid NI Non-ignitable NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. Undetected; the ADL and RL are estimated due to quality control discrepancies. U Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits Exceeds regulatory limit		
M Matrix effect; the concentration is an estimate due to matrix effect. N Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS NA Not applicable ND Not detected at or above the reporting limit (RL/MDL). ND, CT1 Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND, H1 Not detected; Sample analysis performed past holding time. ND, L Not detected; sample reporting limit (RL) elevated due to interference ND, S Not detected; analyzed by method of standard addition (MSA) NF Not found by library search NFL No free liquid NI Non-ignitable NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. U Undetected; the MDL and RL are estimated due to quality control discrepancies. U Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits Exceeds regulatory limit		The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
N Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS NA Not applicable ND Not detected at or above the reporting limit (RL/MDL). ND, CT1 Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND, H1 Not detected; Sample analysis performed past holding time. ND, L Not detected; sample reporting limit (RL) elevated due to interference ND, S Not found by library search NFL No free liquid NI Non-ignitable NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. Undetected; the MDL and RL are estimated due to quality control discrepancies. Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
ND Not detected at or above the reporting limit (RL/MDL). ND, CT1 Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg ND, H1 Not detected; Sample analysis performed past holding time. ND, L Not detected; sample reporting limit (RL) elevated due to interference ND, S Not detected; analyzed by method of standard addition (MSA) NF Not found by library search NFL No free liquid NI Non-ignitable NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		·
ND, CT1 ND, H1 Not detected; Sample analysis performed past holding time. ND, L ND, L Not detected; sample reporting limit (RL) elevated due to interference ND, S Not detected; analyzed by method of standard addition (MSA) NF Not found by library search NFL No free liquid NI Non-ignitable NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms sample matrix interference S RA Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit	NA	Not applicable
ND, H1 ND, L Not detected; Sample analysis performed past holding time. ND, S Not detected; analyzed by method of standard addition (MSA) NF Not found by library search NFL No free liquid NI Non-ignitable NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
ND, L Not detected; sample reporting limit (RL) elevated due to interference ND, S Not detected; analyzed by method of standard addition (MSA) NF Not found by library search NFL No free liquid NI Non-ignitable NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit	•	
ND, S NF Not found by library search NFL No free liquid NI Non-ignitable NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. X Exceeds regulatory limit		
NF Not found by library search NFL No free liquid NI Non-ignitable NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. X Exceeds regulatory limit	·	
NFL No free liquid NI Non-ignitable NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. X Exceeds regulatory limit		
NR Analyte is not required to be analyzed NS Not spiked P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
NS Not spiked P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit	NI	Non-ignitable
P Concentrations >40% difference between the two GC columns Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		Analyte is not required to be analyzed
Q One or more quality control criteria failed. See narrative. QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
QNS Quantity of sample not sufficient to perform analysis RA Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
RA Reanalysis confirms reported results RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
RE Reanalysis confirms sample matrix interference S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
S Analyzed by method of standard addition (MSA) SMI Sample matrix interference on surrogate SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
SP Reported results are for spike compounds only TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
TIC Library Search Compound TNTC Too numerous to count U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
TNTC U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
U Analyte was not detected. The concentration is below the reported LOD. UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
UJ Undetected; the MDL and RL are estimated due to quality control discrepancies. UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
UQ Undetected; the analyte was analyzed for, but not detected. W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
W Post-digestion spike for furnace AA out of control limits X Exceeds regulatory limit		
X Exceeds regulatory limit		
X, S Exceeds regulatory limit; method of standard additions (MSA) Z Cannot be resolved from isomer - see below		Exceeds regulatory limit
Z Cannot be resolved from isomer - see below	X <u>,</u> S	
	Z	Cannot be resolved from isomer - see below





Page 55

Internal Chain of Custody Report

Login: L13111086

Account: 3005 **Project:** 3005.011

Samples: 2

Due Date: 29-NOV-2013

 Samplenum
 Container ID
 Products

 L13111086-01
 281207
 300

Bottle: 1

Seq.	Purpose	From	То	Date/Time	Accept	Relinquish	На
1	LOGIN	COOLER	W1	18-NOV-2013 16:07	CLS		
2	ANALYZ	W1	SEM	21-NOV-2013 11:28	JBK	CLS	
3	STORE	SEM	A1	22-NOV-2013 11:20	CLS	JBK	

 Samplenum
 Container ID
 Products

 L13111086-01
 281208
 ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	То	Date/Time	Accept	Relinquish	Нq
1	LOGIN	COOLER	W1	18-NOV-2013 16:07	CLS		
2	ANALYZ	W1	WET	25-NOV-2013 09:04	BAF	CLS	
3	STORE	WET	A1	26-NOV-2013 17:10	CLS	DCM	

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L13111086-01</u> 281209 PO4

Bottle: 1

Seq.	Purpose	From	То	Date/Time	Accept	Relinquish	pН
1	LOGIN	COOLER	W1	18-NOV-2013 16:07	CLS		
2	ANALYZ	W1	WET	18-NOV-2013 16:19	BAF	RS	
3	STORE	WET	A1	19-NOV-2013 15:54	CLS	BAF	

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L13111086-01</u> 281210 TSS

Bottle: 1

Seq.	Purpose	From	То	Date/Time	Accept	Relinquish	рН
1	LOGIN	COOLER	W1	18-NOV-2013 16:07	CLS		
2	ANALYZ	W1	WET	21-NOV-2013 08:00	ADG	AZH	
3	STORE	WET	A1	22-NOV-2013 08:16	AZH	ADG	

A1 - Sample Archive (COLD)A2 - Sample Archive (AMBIENT)F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login

W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L13111086

Account: 3005 **Project:** 3005.011

Samples: 2

Due Date: 29-NOV-2013

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L13111086-01</u> 281211 TOC

Bottle: 1

Seq.	Purpose	From	То	Date/Time	Accept	Relinquish	Нq
1	LOGIN	COOLER	W1	18-NOV-2013 16:07	CLS		<2
2	ANALYZ	W1	WET	18-NOV-2013 16:19	BAF	RS	
3	STORE	WET	A1	03-DEC-2013 14:32	CLS	BAF	

Samplenum Container ID Products

L13111086-01 281212 AG-MS AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-MS (

Bottle: 1

Seq.	Purpose	From	То	Date/Time	Accept	Relinquish	Нq
1	LOGIN	COOLER	W1	18-NOV-2013 16:07	CLS		>2
Comme	ents:Added 5ml	HNO3 I	ot#: RO	FT 28681 11/18/13 @	1620. P	H did adjus	t. CLS
2	PREP	W1	DIG	21-NOV-2013 04:40	REK	AZH	
3	ANALYZ*	DIG	METALS	21-NOV-2013 13:17	PDM	REK	
4	STORE	DIG	A1	25-NOV-2013 15:45	RS	ERP	

*Sample extract/digestate/leachate

Bottle: 2

Seq.	Purpose	From	То	Date/Time	Accept	Relinquish	Нq
1	LOGIN	COOLER	W1	18-NOV-2013 16:07	CLS		>2

Comments:Added 5ml HNO3 Lot#: RGT 28681 11/18/13 @ 1620. PH did adjust. CLS

*Sample extract/digestate/leachate

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L13111086-01</u> 281213 CN-WD

Bottle: 1

Seq.	Purpose	From	То	Date/Time	Accept	Relinquish	рН
1	LOGIN	COOLER	W1	18-NOV-2013 16:07	CLS		<12
Comme	ents:Added 3ml	NAOH L	ot#: 22	211493 11/18/13 @ 162	0. PH d	id adjust.	CLS
2	ANALYZ	W1	WET	19-NOV-2013 14:12	DCM	CLS	

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login

W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L13111086

Account: 3005 **Project:** 3005.011

Samples: 2

Due Date: 29-NOV-2013

 Samplenum
 Container ID
 Products

 L13111086-02
 281214
 300

Bottle: 1

Seq.	Purpose	From	То	Date/Time	Accept	Relinquish	рН
1	LOGIN	COOLER	W1	18-NOV-2013 16:08	CLS		
2	ANALYZ	W1	SEM	21-NOV-2013 11:28	JBK	CLS	
3	STORE	SEM	A1	22-NOV-2013 11:20	CLS	JBK	

 Samplenum
 Container ID
 Products

 L13111086-02
 281215
 ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	То	Date/Time	Accept	Relinquish	рН
1	LOGIN	COOLER	W1	18-NOV-2013 16:08	CLS		
2	ANALYZ	W1	WET	25-NOV-2013 09:04	BAF	CLS	
3	STORE	WET	A1	26-NOV-2013 17:10	CLS	DCM	

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L13111086-02</u> 281216 PO4

Bottle: 1

Seq.	Purpose	From	То	Date/Time	Accept	Relinquish	pН
1	LOGIN	COOLER	W1	18-NOV-2013 16:08	CLS		
2	ANALYZ	W1	WET	18-NOV-2013 16:19	BAF	RS	
3	STORE	WET	A1	19-NOV-2013 15:54	CLS	BAF	

<u>Samplenum</u> <u>Container ID</u> <u>Products</u> <u>L13111086-02</u> 281217 TSS

Bottle: 1

Seq.	Purpose	From	То	Date/Time	Accept	Relinquish	рН
1	LOGIN	COOLER	W1	18-NOV-2013 16:08	CLS		
2	ANALYZ	W1	WET	21-NOV-2013 08:00	ADG	AZH	
3	STORE	WET	A1	22-NOV-2013 08:16	AZH	ADG	

A1 - Sample Archive (COLD) A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login V1 - Volatiles Refrigerator in Login

W1 - Walkin Cooler in Login

Microbac

Internal Chain of Custody Report

Login: L13111086

Account: 3005 **Project:** 3005.011

Samples: 2

Due Date: 29-NOV-2013

 Samplenum
 Container ID
 Products

 L13111086-02
 281218
 TOC

Bottle: 1

Seq.	Purpose	From	То	Date/Time	Accept	Relinquish	Нq
1	LOGIN	COOLER	W1	18-NOV-2013 16:08	CLS		<2
2	ANALYZ	W1	WET	18-NOV-2013 16:19	BAF	RS	
3	STORE	WET	A1	03-DEC-2013 14:32	CLS	BAF	

Samplenum Container ID Products

L13111086-02 281219 AG-MS AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-MS (

Bottle: 1

Seq.	Purpose	From	То	Date/Time	Accept	Relinquish	рН
1	LOGIN	COOLER	W1	18-NOV-2013 16:08	CLS		>2
Comments: Added 5ml HNO3 Lot#: RGT 28681 11/18/13 @ 1620. PH did adjus						t. CLS	
2	PREP	W1	DIG	21-NOV-2013 04:40	REK	AZH	
3	ANALYZ*	DIG	METALS	21-NOV-2013 13:17	PDM	REK	
4	STORE	DIG	A1	25-NOV-2013 15:45	RS	ERP	

*Sample extract/digestate/leachate

Bottle: 2

Seq.	Purpose	From	То	Date/Time	Accept	Relinquish	Нq
1	LOGIN	COOLER	W1	18-NOV-2013 16:08	CLS		>2

Comments:Added 5ml HNO3 Lot#: RGT 28681 11/18/13 @ 1620. PH did adjust. CLS

*Sample extract/digestate/leachate

 Samplenum
 Container ID
 Products

 L13111086-02
 281220
 CN-WD

Bottle: 1

Seq.	Purpose	From	То	Date/Time	Accept	Relinquish	Нд
1	LOGIN	COOLER	W1	18-NOV-2013 16:08	CLS		<12
Comments:Added 3ml NAOH Lot#: 2211493 11/18/13 @ 1620. PH did adjust. CLS							
2	ANALYZ	W1	WET	19-NOV-2013 14:12	DCM	CLS	
3	STORE	WET	A1	22-NOV-2013 15:43	CLS	DCM	

A1 - Sample Archive (COLD)

A2 - Sample Archive (AMBIENT)

F1 - Volatiles Freezer in Login

V1 - Volatiles Refrigerator in Login

W1 - Walkin Cooler in Login

